REMARKS

In the Office Action mailed September 25, 2006, the Office Action rejected claims 1-60 under 35 U.S.C. §103. Claims 10, 18, 30, 38, 50 and 58 have been amended and claims 17, 37 and 57 have been canceled without prejudice.

Applicants respectfully respond to this Office Action.

I. <u>Rejection of Claims 1-9, 21-29 and 41-49 under 35 U.S.C. § 103(a)</u>

The Office Action rejected claims 1-9, 21-29 and 41-49 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,643,520 to Park et al. (hereinafter, "Park") and further in view of U.S. Publication No. 2004/0121808 to Han et al. (hereinafter, "Han"). This rejection is respectfully traversed.

The M.P.E.P. states that

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.
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> The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

M.P.E.P. § 2142.

Applicants respectfully submit that the claims at issue are patentably distinct from the cited references. The cited references do not teach or suggest all of the limitations in these claims.

Claim 1 recites "[a] method of directing access terminals . . . to change data rates in reverse link communications [by] . . . determining an effective noise power spectral density

($N_{t,i,effective}$) at an access network for one of the access terminals (i) due to a thermal noise power spectral density (N_0) and a sum of chip energy of (E_c) of all channels except pilot channels of at least some of the access terminals that are power controlled by the sector." Park does not teach, suggest or disclose this claim element. Instead, Park states:

> First, in a mobile communications system, information used to determine the initial transmission power for the forward link channel includes a ratio "(Ec/Io)_pilot_rx" of the energy Ec pilot received pilot chip measured by a mobile station to the total received power spectral density Io, or a ratio "(Eb/Nt)_pilot_rx" of the energy Eb per received pilot bit to the total received noise power spectral density Nt, a ratio "(Ec/Ior)_pilot_tx" of the energy Ec per transmit pilot chip of a base station to the total transmission power spectral density Ior, a required data rate, a ratio "(Eb/Nt)_required" of a required energy Eb per signal bit to the noise power spectral density Nt, reverse link pilot channel received power measured by the base station, and reverse link pilot channel transmission power of the mobile station.
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> Here, the ratio "(Ec/Io)_pilot_rx" of the energy per received pilot chip measured by the mobile station to the total received power spectral density, or the ratio "(Eb/Nt)_pilot_rx" of the energy per received pilot bit to the total received noise power spectral density, and a reverse pilot transmission power of the mobile station are information the mobile station can report to the base station through an access channel. And, the ratio "(Ec/Ior)_pilot_tx" of the energy per pilot transmission chip of the base station to the total transmission power spectral density, the required data rate, the corresponding ratio "(Eb/Nt)_required" of a required energy per traffic signal bit to the noise power spectral density, and a reverse link pilot received power measured by the base station are information that belongs to the base station. The base station can determine the initial transmission power for the forward link channel using the above information.

Park, col. 3, lines 14-44.

The Office Action asserts that this passage of Park teaches the element of claim 1 provided above. Applicants respectfully disagree. Here, Park teaches that the ratios "(Ec/Io)_pilot_rx . . . (Eb/Nt)_pilot_rx . . . (Ec/Ior)_pilot_tx . . . (Eb/Nt)_required" and the parameters "a required data rate . . . reverse link pilot channel received power . . . and reverse link pilot channel transmission power" are "information used to determine the initial transmission power of the forward link channel." This does not teach, suggest or disclose "[a] method of directing access terminals . . . to change data rates in reverse link communications."

Park teaches, suggests and discloses "determining initial transmission power for the forward link channel." The forward link channel does not suggest "reverse link communications" as claimed by Applicants.

The above cited passage of Park also does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Park teaches that the above mentioned ratios and parameters are "information used to determine the initial transmission power for the forward link channel." Determining the initial transmission power for the forward link channel does not teach, suggest or disclose "determining an effective noise power spectral density." In addition, the "total received noise power spectral density Nt" does not teach, suggest or disclose "an effective noise power spectral density" that is determined "due to a thermal noise power spectral density." Park merely teaches that the "total received noise power spectral density" is used to obtain a ratio value with "the energy per received pilot bit."

Further, Park does not teach, suggest or disclose "a sum of chip energy of . . . all channels except pilot channels." In fact, Park clearly teaches the use of energy from pilot channels. Park teaches "the energy Ec pilot received pilot chip measured by a mobile station . . . the energy Eb per received pilot bit . . . the energy Ec per transmit pilot chip of a base station . . . reverse link pilot channel received power . . . and reverse link pilot channel transmission power." Park clearly teaches the use of energy from pilot channels "to determine the initial transmission power for the forward link channel." As such, Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to . . . a sum of chip energy of . . . all channels except pilot channels" as claimed by Applicants.

Park also states:

> An access channel message interpreter 313 at the base station analyzes the access channel message to extract the strengths of the pilot channel signals and sends the result to a transmission power controller 317. A memory 315 at the base station stores information including a ratio "(Ec/lor)_pilot_tx" of transmission energy per pilot channel signal chip of the base station to the total transmission power spectral density of the entire signals, and a ratio "(Eb/Nt)_required" of required energy per signal bit to the noise power spectral density for each required data rate. The transmission power controller 317 receives the outputs of the access channel message interpreter 313 and the memory 315 of the base station

> and generates a channel gain control signal for controlling the initial transmission power for the forward link channel at the base station. A channel transmitter 319 determines the transmission power according to the channel gain control signal of the transmission power controller 317 and transmits signals for the corresponding channel. Here, the channel transmitter 319 can be a traffic channel transmitter or a control channel transmitter.

Park, col. 5, lines 13-33.

Park teaches that "the base station stores information including a ratio . . . of required energy per signal bit to the noise power spectral density." However, storing a ratio that includes the noise power spectral density does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Similarly, "generat[ing] a channel gain control signal for controlling the initial transmission power for the forward link channel" does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Further, determining "the transmission power according to the channel gain control signal of the transmission power controller" does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels."

In addition, Park clearly teaches the use of energy from pilot channels to generate a channel gain control signal. As provided above, Park teaches "[a] memory at the base station stores . . . transmission energy per pilot channel signal chip." The information stored in memory is used to "generate a channel gain control signal for controlling the initial transmission power for the forward link channel at the base station." As such, Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a sum of chip energy of . . . all channels except pilot channels."

In view of the foregoing, Applicants respectfully submit that claim 1 is patentably distinct from the cited references. Accordingly, Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 2-9 depend either directly or indirectly from claim 1. Accordingly, Applicants respectfully request that the rejection of claims 2-9 be withdrawn for at least the same reasons as

those presented above in connection with claim 1 because Park does not disclose, teach or suggest all of the elements of claim 1 as shown above.

Claim 21 recites "[a] base station apparatus, comprising . . . means for determining an effective noise power spectral density ($N_{t,i,effective}$) for one of the access terminals (i) due to a thermal noise power spectral density (N_0) and a sum of chip energy of (E_c) of all channels except pilot channels of at least some of the access terminals that are power controlled by a sector of the base station." Park does not teach, suggest or disclose this claim element. Instead, Park states:

> First, in a mobile communications system, information used to determine the initial transmission power for the forward link channel includes a ratio "(Ec/Io)_pilot_rx" of the energy Ec pilot received pilot chip measured by a mobile station to the total received power spectral density Io, or a ratio "(Eb/Nt)_pilot_rx" of the energy Eb per received pilot bit to the total received noise power spectral density Nt, a ratio "(Ec/Ior)_pilot_tx" of the energy Ec per transmit pilot chip of a base station to the total transmission power spectral density Ior, a required data rate, a ratio "(Eb/Nt)_required" of a required energy Eb per signal bit to the noise power spectral density Nt, reverse link pilot channel received power measured by the base station, and reverse link pilot channel transmission power of the mobile station.
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> Here, the ratio "(Ec/Io)_pilot_rx" of the energy per received pilot chip measured by the mobile station to the total received power spectral density, or the ratio "(Eb/Nt)_pilot_rx" of the energy per received pilot bit to the total received noise power spectral density, and a reverse pilot transmission power of the mobile station are information the mobile station can report to the base station through an access channel. And, the ratio "(Ec/Ior)_pilot_tx" of the energy per pilot transmission chip of the base station to the total transmission power spectral density, the required data rate, the corresponding ratio "(Eb/Nt)_required" of a required energy per traffic signal bit to the noise power spectral density, and a reverse link pilot received power measured by the base station are information that belongs to the base station. The base station can determine the initial transmission power for the forward link channel using the above information.

Park, col. 3, lines 14-44.

The above cited passage of Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Park teaches that the above mentioned ratios and parameters are "information used to determine the initial transmission

power for the forward link channel." Determining the initial transmission power for the forward link channel does not teach, suggest or disclose "determining an effective noise power spectral density." In addition, the "total received noise power spectral density Nt" does not teach, suggest or disclose "an effective noise power spectral density" that is determined "due to a thermal noise power spectral density." Park merely teaches that the "total received noise power spectral density" is used to obtain a ratio value with "the energy per received pilot bit."

Further, Park does not teach, suggest or disclose "a sum of chip energy of . . . all channels except pilot channels." In fact, Park clearly teaches the use of energy from pilot channels. Park teaches "the energy Ec pilot received pilot chip measured by a mobile station . . . the energy Eb per received pilot bit . . . the energy Ec per transmit pilot chip of a base station . . . reverse link pilot channel received power . . . and reverse link pilot channel transmission power." Park clearly teaches the use of energy from pilot channels "to determine the initial transmission power for the forward link channel." As such, Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to . . . a sum of chip energy of . . . all channels except pilot channels" as claimed by Applicants.

Park also states:

> An access channel message interpreter 313 at the base station analyzes the access channel message to extract the strengths of the pilot channel signals and sends the result to a transmission power controller 317. A memory 315 at the base station stores information including a ratio "(Ec/lor)_pilot_tx" of transmission energy per pilot channel signal chip of the base station to the total transmission power spectral density of the entire signals, and a ratio "(Eb/Nt)_required" of required energy per signal bit to the noise power spectral density for each required data rate. The transmission power controller 317 receives the outputs of the access channel message interpreter 313 and the memory 315 of the base station and generates a channel gain control signal for controlling the initial transmission power for the forward link channel at the base station. A channel transmitter 319 determines the transmission power according to the channel gain control signal of the transmission power controller 317 and transmits signals for the corresponding channel. Here, the channel transmitter 319 can be a traffic channel transmitter or a control channel transmitter.

Park, col. 5, lines 13-33.

Park teaches that "the base station stores information including a ratio . . . of required energy per signal bit to the noise power spectral density." However, storing a ratio that includes the noise power spectral density does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Similarly, "generat[ing] a channel gain control signal for controlling the initial transmission power for the forward link channel" does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Further, determining "the transmission power according to the channel gain control signal of the transmission power controller" does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels."

In addition, Park clearly teaches the use of energy from pilot channels to generate a channel gain control signal. As provided above, Park teaches "[a] memory at the base station stores . . . transmission energy per pilot channel signal chip." The information stored in memory is used to "generate a channel gain control signal for controlling the initial transmission power for the forward link channel at the base station." As such, Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a sum of chip energy of . . . all channels except pilot channels."

In view of the foregoing, Applicants respectfully submit that claim 21 is patentably distinct from the cited references. Accordingly, Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 22-29 depend either directly or indirectly from claim 21. Accordingly, Applicants respectfully request that the rejection of claims 22-29 be withdrawn for at least the same reasons as those presented above in connection with claim 21 because Park does not disclose, teach or suggest all of the elements of claim 21 as shown above.

Claim 41 recites "[a] computer readable medium containing . . . instructions embodying a method of directing access terminals . . . to change data rates in reverse link communications [by] . . . determining an effective noise power spectral density ($N_{t,i,effective}$) at an access network for one of the access terminals (i) due to a thermal noise power spectral density (N_0) and a sum

of chip energy of (E_c) of all channels except pilot channels of at least some of the access terminals that are power controlled by the sector." Park does not teach, suggest or disclose this claim element. Instead, Park states:

> First, in a mobile communications system, information used to determine the initial transmission power for the forward link channel includes a ratio "(Ec/Io)_pilot_rx" of the energy Ec pilot received pilot chip measured by a mobile station to the total received power spectral density Io, or a ratio "(Eb/Nt)_pilot_rx" of the energy Eb per received pilot bit to the total received noise power spectral density Nt, a ratio "(Ec/Ior)_pilot_tx" of the energy Ec per transmit pilot chip of a base station to the total transmission power spectral density Ior, a required data rate, a ratio "(Eb/Nt)_required" of a required energy Eb per signal bit to the noise power spectral density Nt, reverse link pilot channel received power measured by the base station, and reverse link pilot channel transmission power of the mobile station.
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> Here, the ratio "(Ec/Io)_pilot_rx" of the energy per received pilot chip measured by the mobile station to the total received power spectral density, or the ratio "(Eb/Nt)_pilot_rx" of the energy per received pilot bit to the total received noise power spectral density, and a reverse pilot transmission power of the mobile station are information the mobile station can report to the base station through an access channel. And, the ratio "(Ec/Ior)_pilot_tx" of the energy per pilot transmission chip of the base station to the total transmission power spectral density, the required data rate, the corresponding ratio "(Eb/Nt)_required" of a required energy per traffic signal bit to the noise power spectral density, and a reverse link pilot received power measured by the base station are information that belongs to the base station. The base station can determine the initial transmission power for the forward link channel using the above information.

Park, col. 3, lines 14-44.

The Office Action asserts that this passage of Park teaches the element of claim 41 provided above. Applicants respectfully disagree. Here, Park teaches that the ratios "(Ec/Io)_pilot_rx . . . (Eb/Nt)_pilot_rx . . . (Ec/Ior)_pilot_tx . . . (Eb/Nt)_required" and the parameters "a required data rate . . . reverse link pilot channel received power . . . and reverse link pilot channel transmission power" are "information used to determine the initial transmission power of the forward link channel." This does not teach, suggest or disclose "[a] method of directing access terminals . . . to change data rates in reverse link communications." Park teaches, suggests and discloses "determining initial transmission power for the forward link

channel." The forward link channel does not suggest "reverse link communications" as claimed by Applicants.

The above cited passage of Park also does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Park teaches that the above mentioned ratios and parameters are "information used to determine the initial transmission power for the forward link channel." Determining the initial transmission power for the forward link channel does not teach, suggest or disclose "determining an effective noise power spectral density." In addition, the "total received noise power spectral density Nt" does not teach, suggest or disclose "an effective noise power spectral density" that is determined "due to a thermal noise power spectral density." Park merely teaches that the "total received noise power spectral density" is used to obtain a ratio value with "the energy per received pilot bit."

Further, Park does not teach, suggest or disclose "a sum of chip energy of . . . all channels except pilot channels." In fact, Park clearly teaches the use of energy from pilot channels. Park teaches "the energy Ec pilot received pilot chip measured by a mobile station . . . the energy Eb per received pilot bit . . . the energy Ec per transmit pilot chip of a base station . . . reverse link pilot channel received power . . . and reverse link pilot channel transmission power." Park clearly teaches the use of energy from pilot channels "to determine the initial transmission power for the forward link channel." As such, Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to . . . a sum of chip energy of . . . all channels except pilot channels" as claimed by Applicants.

Park also states:

> An access channel message interpreter 313 at the base station analyzes the access channel message to extract the strengths of the pilot channel signals and sends the result to a transmission power controller 317. A memory 315 at the base station stores information including a ratio "(Ec/lor)_pilot_tx" of transmission energy per pilot channel signal chip of the base station to the total transmission power spectral density of the entire signals, and a ratio "(Eb/Nt)_required" of required energy per signal bit to the noise power spectral density for each required data rate. The transmission power controller 317 receives the outputs of the access channel message interpreter 313 and the memory 315 of the base station and generates a channel gain control signal for controlling the initial transmission power for the forward link channel at the base station. A

> channel transmitter 319 determines the transmission power according to the channel gain control signal of the transmission power controller 317 and transmits signals for the corresponding channel. Here, the channel transmitter 319 can be a traffic channel transmitter or a control channel transmitter.

Park, col. 5, lines 13-33.

Park teaches that "the base station stores information including a ratio . . . of required energy per signal bit to the noise power spectral density." However, storing a ratio that includes the noise power spectral density does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Similarly, "generat[ing] a channel gain control signal for controlling the initial transmission power for the forward link channel" does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels." Further, determining "the transmission power according to the channel gain control signal of the transmission power controller" does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a thermal noise power spectral density . . . and a sum of chip energy of . . . all channels except pilot channels."

In addition, Park clearly teaches the use of energy from pilot channels to generate a channel gain control signal. As provided above, Park teaches "[a] memory at the base station stores . . . transmission energy per pilot channel signal chip." The information stored in memory is used to "generate a channel gain control signal for controlling the initial transmission power for the forward link channel at the base station." As such, Park does not teach, suggest or disclose "determining an effective noise power spectral density . . . due to a sum of chip energy of . . . all channels except pilot channels."

In view of the foregoing, Applicants respectfully submit that claim 41 is patentably distinct from the cited references. Accordingly, Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 42-49 depend either directly or indirectly from claim 41. Accordingly, Applicants respectfully request that the rejection of claims 42-49 be withdrawn for at least the

same reasons as those presented above in connection with claim 41 because Park does not disclose, teach or suggest all of the elements of claim 41 as shown above.

II. Rejection of Claims 10-14, 16-20, 30-34, 36-40, 50-54 and 56-60 under 35 U.S.C. § 103(a)

The Office Action rejected claims 10-14, 16-20, 30-34, 36-40, 50-54 and 56-60 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,643,520 to Park et al. (hereinafter, "Park") and further in view of U.S. Publication No. 2004/0121808 to Han et al. (hereafter, "Han"). This rejection is respectfully traversed.

The standard to establish a *prima facie* case of obviousness is provided above. Applicants respectfully submit that the claims at issue are patentably distinct from the cited references. The cited references do not teach or suggest all of the limitations in these claims.

Claim 10 has been amended to recite, in pertinent part, "computing a ratio of the maximum noise power spectral density to a thermal noise power spectral density ($N_{t,max}/N_0$)." Support for this amendment may be found in Applicants' specification on page 5, paragraph [0020] and from cancelled claim 17. Park does not teach, suggest or disclose this claim element. Instead, Park states:

> In the expression, the "lor" of (lor/(loc+No))_rx represents the received power spectral density from a desired base station, the "loc" the received power spectral density of the other base stations, the "No" the noise power spectral density, Thus, the "(lor/(loc +No)) _rx" is the ratio of a desired base station signal received by the mobile station to interference and noise of the other base stations and represents information about the relative geometrical location of the desired based station with respect to the other base stations, estimated from the present location of the mobile station.

Park, col. 6, lines 52-62.

The ratio "(lor/(loc+No))" does not teach, suggest or disclose "computing a ratio of the maximum noise power spectral density to a thermal noise power spectral density." Park teaches that the "lor" represents the "received power spectral density from a desired base station." Received power spectral density does not teach, suggest or disclose the "maximum noise power spectral density" because the received power spectral density is not necessarily the "maximum."

Park further teaches that the "loc" represents the "received power spectral of the other base stations, the 'No' the noise power spectral density." The sum of the received power spectral of the other base stations and the noise power spectral density does not teach, suggest or disclose "a thermal noise power spectral density." Earlier, the Office Action asserted that Park taught a thermal noise power spectral density. However, the passages cited by the Office Action (Park, col. 3, lines 14-44 and col. 5, lines 13-33) to support this assertion did not suggest or disclose that "a thermal noise power spectral density" was suggested by the sum of the "received power spectral of the other base stations, the 'No' the noise power spectral density." See Office Action, page 2. As such, the Office Action appears to assert that two different passages of Park teach, suggest or disclose "a thermal noise power spectral density." However, the teachings of these two different passages do not disclose identical elements that could teach or suggest "a thermal noise power spectral density."

In view of the foregoing, Applicants respectfully submit that claim 10 is patentably distinct from the cited references. Accordingly, Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 11-14, 16 and 18-20 depend either directly or indirectly from claim 10. Accordingly, Applicants respectfully request that the rejection of claims 11-14, 16 and 18-20 be withdrawn for at least the same reasons as those presented above in connection with claim 10 because Park does not disclose, teach or suggest all of the elements of claim 10 as shown above.

Claim 30 has been amended to recite, in pertinent part, "computing a ratio of the maximum noise power spectral density to a thermal noise power spectral density ($N_{t,max}/N_0$)." Support for this amendment may be found in Applicants' specification on page 5, paragraph [0020] and from cancelled claim 37. Park does not teach, suggest or disclose this claim element. Instead, Park states:

> In the expression, the "lor" of (lor/(loc+No))_rx represents the received power spectral density from a desired base station, the "loc" the received power spectral density of the other base stations, the "No" the noise power spectral density, Thus, the "(lor/(loc +No)) _rx" is the ratio of a desired base station signal received by the mobile station to interference and noise of the other base stations and represents information about the relative geometrical location of the desired based station with respect to the other base stations, estimated from the present location of the mobile station.

Park, col. 6, lines 52-62.

The ratio "(lor/(loc+No))" does not teach, suggest or disclose "computing a ratio of the maximum noise power spectral density to a thermal noise power spectral density." Park teaches that the "lor" represents the "received power spectral density from a desired base station." Received power spectral density does not teach, suggest or disclose the "maximum noise power spectral density" because the received power spectral density is not necessarily the "maximum."

Park further teaches that the "loc" represents the "received power spectral of the other base stations, the 'No' the noise power spectral density." The sum of the received power spectral of the other base stations and the noise power spectral density does not teach, suggest or disclose "a thermal noise power spectral density." Earlier, the Office Action asserted that Park taught a thermal noise power spectral density. However, the passages cited by the Office Action (Park, col. 3, lines 14-44 and col. 5, lines 13-33) to support this assertion did not suggest or disclose that "a thermal noise power spectral density" was suggested by the sum of the "received power spectral of the other base stations, the 'No' the noise power spectral density." See Office Action, page 2. As such, the Office Action appears to assert that two different passages of Park teach, suggest or disclose "a thermal noise power spectral density." However, the teachings of these two different passages do not disclose identical elements that could teach or suggest "a thermal noise power spectral density."

In view of the foregoing, Applicants respectfully submit that claim 30 is patentably distinct from the cited references. Accordingly, Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 31-34, 36 and 38-40 depend either directly or indirectly from claim 30. Accordingly, Applicants respectfully request that the rejection of claims 31-34, 36 and 38-40 be withdrawn for at least the same reasons as those presented above in connection with claim 30 because Park does not disclose, teach or suggest all of the elements of claim 30 as shown above.

Claim 50 has been amended to recite, in pertinent part, "computing a ratio of the maximum noise power spectral density to a thermal noise power spectral density ($N_{t,max}/N_0$)." Support for this amendment may be found in Applicants' specification on page 5, paragraph [0020] and from cancelled claim 57. Park does not teach, suggest or disclose this claim element. Instead, Park states:

> In the expression, the "lor" of (lor/(loc+No))_rx represents the received power spectral density from a desired base station, the "loc" the received power spectral density of the other base stations, the "No" the noise power spectral density, Thus, the "(lor/(loc +No)) _rx" is the ratio of a desired base station signal received by the mobile station to interference and noise of the other base stations and represents information about the relative geometrical location of the desired based station with respect to the other base stations, estimated from the present location of the mobile station.

Park, col. 6, lines 52-62.

The ratio "(lor/(loc+No))" does not teach, suggest or disclose "computing a ratio of the maximum noise power spectral density to a thermal noise power spectral density." Park teaches that the "lor" represents the "received power spectral density from a desired base station." Received power spectral density does not teach, suggest or disclose the "maximum noise power spectral density" because the received power spectral density is not necessarily the "maximum."

Park further teaches that the "loc" represents the "received power spectral of the other base stations, the 'No' the noise power spectral density." The sum of the received power spectral of the other base stations and the noise power spectral density does not teach, suggest or disclose "a thermal noise power spectral density." Earlier, the Office Action asserted that Park taught a thermal noise power spectral density. However, the passages cited by the Office Action (Park, col. 3, lines 14-44 and col. 5, lines 13-33) to support this assertion did not suggest or disclose that "a thermal noise power spectral density" was suggested by the sum of the "received power spectral of the other base stations, the 'No' the noise power spectral density." See Office Action, page 2. As such, the Office Action appears to assert that two different passages of Park teach, suggest or disclose "a thermal noise power spectral density." However, the teachings of these two different passages do not disclose identical elements that could teach or suggest "a thermal noise power spectral density."

In view of the foregoing, Applicants respectfully submit that claim 50 is patentably distinct from the cited references. Accordingly, Applicants respectfully request that the rejection of this claim be withdrawn.

Claims 51-54, 56 and 58-60 depend either directly or indirectly from claim 30. Accordingly, Applicants respectfully request that the rejection of claims 51-54, 56 and 58-60 be

withdrawn for at least the same reasons as those presented above in connection with claim 50 because Park does not disclose, teach or suggest all of the elements of claim 50 as shown above.

III. Rejection of Claims 15, 35 and 55 under 35 U.S.C. § 103(a)

The Office Action rejected claims 15, 35 and 55 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,643,520 to Park et al. (hereinafter, "Park") and U.S. Publication 2004/0121808 to Han et al. (hereinafter, "Han") and further in view of U.S. Patent No. 6,731,620 to Lim et al. (hereinafter, "Lim"). This rejection is respectfully traversed.

The standard to establish a *prima facie* case of obviousness is provided above. Applicants respectfully submit that the claims at issue are patentably distinct from the cited references. The cited references do not teach or suggest all of the limitations in these claims.

Claim 15 depends directly from claim 10. Accordingly, Applicants respectfully request that the rejection of claim 15 be withdrawn for at least the same reasons as those presented above in connection with claim 10 because Park does not disclose, teach or suggest all of the elements of claim 10 as shown above.

Claim 35 depends directly from claim 30. Accordingly, Applicants respectfully request that the rejection of claim 35 be withdrawn for at least the same reasons as those presented above in connection with claim 30 because Park does not disclose, teach or suggest all of the elements of claim 30 as shown above.

Claim 55 depends directly from claim 50. Accordingly, Applicants respectfully request that the rejection of claim 55 be withdrawn for at least the same reasons as those presented above in connection with claim 50 because Park does not disclose, teach or suggest all of the elements of claim 50 as shown above.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: January 23, 2007

By: /Larry J. Moskowitz/
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